

REMARKS

Reconsideration of the instant application is respectfully requested. The present amendment is responsive to the Office Action of March 19, 2003, in which claims 1-32 are presently pending. On April 14, 2003, a provisional election was made with traverse to prosecute apparatus claims (1-20) of Group I, while method claims (21-30) of Group II have been withdrawn from consideration.

Of the Group I claims included in the provisional election, claims 1-6, 8, 9, 11-13 and 15-18 have been rejected under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,980,638 to Janos, in view of U.S. Patent 6,182,603 to Shang, et al. (Shang). Claims 7, 14 and 20 have also been rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, and in further view of U.S. Patent 5,595,606 to Fujikawa, et al. (Fujikawa). Finally, claims 10 and 19 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, and in further view of U.S. Patent 5,968,275 to Lee, et al. (Lee). For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

As an initial matter, paragraph [0032] on page 9 of the specification has been amended to correct the typographical error with respect to reference numeral 82 (which describes the RF signal generator), as requested by the Examiner. In addition, Figure 5 has been amended to include the reference numeral 110 for identifying the impingement disk, while Figure 7 has been amended to show the impingement disk 110 as described in the specification and shown in Figures 5 and 6. However, no new matter has been added. Enclosed is a copy of the original drawings reflecting the changes marked in red ink, and approval for these changes is hereby requested of the Examiner.

With regard to the restriction requirement between the inventions of Group I and Group II, the Applicants affirm the provisional election of Group I, with traverse. MPEP

section 803 provides that “[i]f the search and examination of the entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.” The Applicants submit that this is the case in the instant application, as the examination of all of the method claims would not result in a serious time burden. Accordingly, the Applicants respectfully request reconsideration of the restriction requirement as to the method claims of Group II.

In response to the §103 rejections over the art of record, the Applicants respectfully traverse the rejections of claims 1-10 for the reason that Janos does not teach or suggest an isolation means for shielding the workpiece from electric field potentials in a sheath created by activation of a supplemental ion source, as is presently claimed. More specifically, as to claim 2, Janos does not teach or suggest (even in combination with Shang) that the baffle plate assembly serves as the “isolation means.”

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that (1) all elements of the claimed invention are disclosed in the prior art; (2) that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references; and (3) that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Thus, under the first element, to establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is

nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

As set forth in paragraph [0038] of the specification, “[b]affle plate assembly 54 further includes a lower baffle plate 54b, preferably made from a material such as anodized aluminum, ***and is grounded*** to act as the opposing capacitive electrode to antenna 78 or 92.” (Emphasis added) Accordingly, since the baffle plate assembly is grounded, it provides the isolation means for the capacitive sheath potentials. However, Janos does not teach that the inlet baffle plates 6a’, 6b’ may be configured for shielding capacitive sheath potentials because there is no teaching or suggestion that the baffle plate(s) are grounded or may otherwise be used as a capacitive electrode for an external RF source. Therefore, because all of the elements of claim 1 are not taught in Janos, Shang or any of the other art of record, there is no prima facie establishment of obviousness as to claims 1-10.

With regard to the second element of prima facie obviousness, there are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

A statement that modifications of the prior art to meet the claimed invention would have been “ ‘well within the ordinary skill of the art at the time the claimed

invention was made' ” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Notwithstanding the above, one skilled in the art would also not be motivated to combine the teachings of the Janos and Shang references to arrive at the invention of claim 1. As indicated by the Examiner on page 5 of the present Office Action, Janos fails to teach a supplemental ion source located proximate the process chamber. However, the Examiner additionally cites the RF power source 36 of Shang as a supplemental ion source in support of the §103 rejections. A review of Figure 1 of the Shang patent reveals that the RF power source 36 is directly connected to the first electrode 16 (which is also referred to by Shang as a “showerhead” and a “gas inlet manifold” in column 4, lines 22-37). Furthermore, the electrode/showerhead/gas inlet manifold is disposed within an opening through the top wall 14 of the deposition chamber 12 such that it is externally exposed for coupling to the RF source 36.

On the other hand, the inlet baffle plates of Janos are disposed completely within the process chamber 5'. As such, the interior baffle plates and process chamber of Janos could not be modified to connect directly to the exterior RF source of Shang without undue experimentation. Thus, one skilled in the art would not be motivated to combine these two references to arrive at the presently claimed invention. It is therefore respectfully submitted that the rejections to claims 1-10 have been overcome.

Finally, with regard to the rejections to claims 11-20, claim 11 has been amended to include the recitations of now canceled claims 14 and 20. That is, independent claim

now recites that the lower baffle plate includes a plurality of V-shaped water cooling channels, as more particularly illustrated in Figure 8. The Fujikawa reference (as shown in Figure 14 thereof) does not teach this particular configuration, but rather teaches a zig-zag configuration. Column 10, lines 56-60. Since this feature is not taught or disclosed by any of the cited references, the rejections to claims 11-20 have also been overcome.

For the above stated reasons, it is respectfully submitted that the present application is now in condition for allowance. No new matter has been entered and no additional fees are believed to be required. However, if any fees are due with respect to this Amendment, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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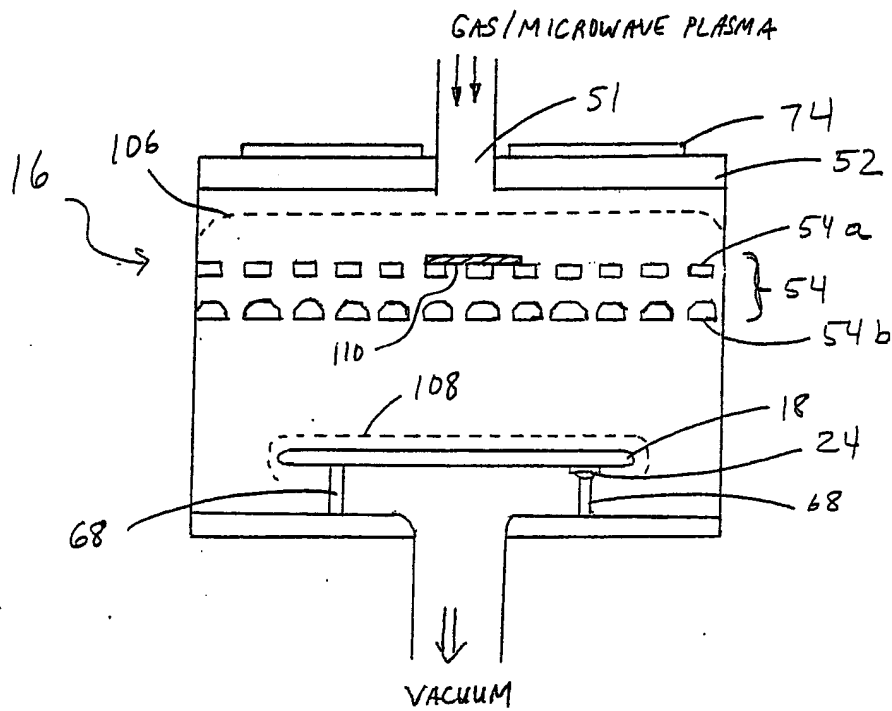


FIG. 5

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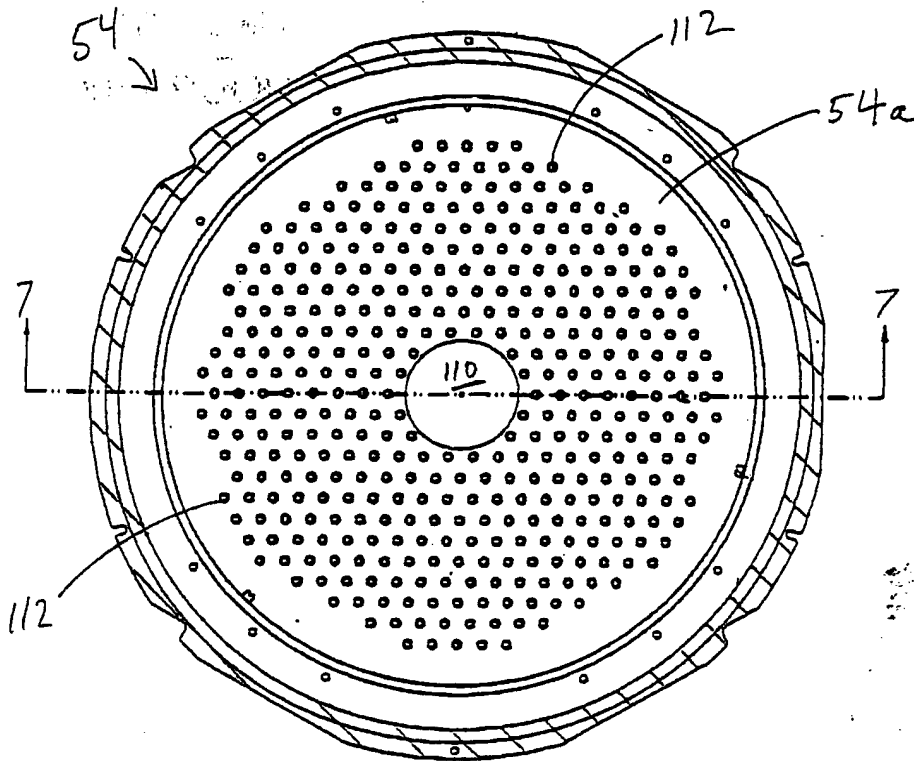


FIG. 6

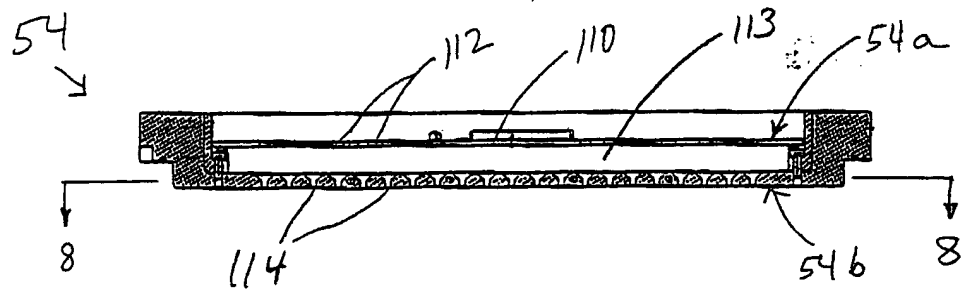


FIG. 7